COMMITTED ACCESS RATE (CAR) SYSTEM ARCHITECTURE

ABSTRACT OF THE DISCLOSURE

Systems and methods for committed access rate (CAR) system architecture in an

5   IP/Ethernet network with optional dynamic packet memory reservation are disclosed. The

method includes classifying each received packet into a quality of service (QoS) group

using the packet header information, defining a traffic transmission rate profile such as by

using a token bucket model to measure and check the traffic rate profile of the incoming

packet against a corresponding service level agreement (SLA), marking the packet as in

10 profile or out of profile, and performing packet buffer memory reservation to guarantee

memory space for in profile CAR packets. Buffer memory reservation may be via static

or dynamic memory reservation. Dynamic memory reservation eliminates the need for

hard boundaries to restrict non-CAR packets. A push-out (e.g., head-drop) mechanism

may be employed to push out non-CAR packets when the network traffic is congested.